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PLANT INDUSTRY

WEEKLY STATION REPORTS

of the office of

DRY LAND AGRICULTURE INVESTIGATIONS

Bureau of Plant Industry

U. S. Department of Agriculture

JULY 6

REPORT FOR WEEK ENDING JULY 6, 1918.
(Except where otherwise indicated).

Akron:

The past week has been hot and dry. Spring wheat and oats are a total failure, except on fallow. Many of the plats on the rotations are burned brown before the wheat headed. Winter wheat ripened rapidly and some plats in the variety tests were harvested. Many fields in the vicinity of the Station are being harvested. The winter wheat on land cropped last year is very poor, that on summer fallow will yield from 15 to 25 bushels per acre. Corn is beginning to tassel and is rolling badly.

Maximum temperature for the week, 99; minimum, 54; precipitation, none.

Amarillo:

Wheather continues the same - high southerly winds, clear skies and temperatures generally running well above 90 for maximum during the day. Our row crops are now suffering severely from the drouth especially on plats with the least reserve of soil moisture. Kafir and sorgo replanted two weeks ago are not yet up with anything like a stand but in some rows and spots in a very irregular manner have come up during the past week. Harvest was started on the station yesterday with the binding of plats B and C of CC series, the only plats of this crop on the station worth harvesting. The remaining 8 plats of oats on the D.L.A. field were mowed to destroy the thistles and the same is being done with the cereal varieties of oats and wheat. Ten plats in Spring wheat on the D.L.A. field also were mowed today. The remaining 16 plats of this crop on said field will be harvested early next week. Work of hoeing weeds out of the row crops has been the main occupation of the week, little thinning of crops being necessary due to the moderate stands with which the crops emerged. The winter grain cereal varieties, all but four plats of rye, were disked out, there being little but weeds in evidence. Small grain harvest and threshing thus is a short job here this season and it now looks as though this also will be the case with our other crops. The range is dried up and trees are plainly showing the effects of the drouth where no irrigation has been done.

Weather for the past week gave data as follows: - maximum temperature 106, and minimum 55 both on June 29. Average hourly wind, 11.4 miles. Precipitation .03". Evaporation by 6 ft. tank, 3.094 inches. The new 4 ft. tank set up according to W. B. specified standard since the first of July shows a rate of evaporation 125% that of the 6 ft. tank.

Weather summary for June follows:

Average Max. Temp. 91; Avg. Min. 63; Avg. Mean 77, which is 4 degrees above the station normal being reached only once before for this month - June 1914 - by the station records.

Average hourly wind velocity was 7.8 miles, being 1.1 miles below the monthly normal.

Precipitation was 1.19 inches; our normal for this month being nearly 2 inches.

Evaporation by 6 ft. tank was 10.128 inches, which was practically normal.

Vapor pressure was .397, which was somewhat below the normal.

Ardmore:

Maximum temperature 89; minimum 45; precipitation for the week .08 in.

Small grain crops are in full bloom and are beginning to suffer materially for the want of moisture. One good rain within the next few days means the difference between success and failure in the production of wheat and oats on the station. Small grain seeded in March is much better than later seeding. Most of the farmers throughout this section seed wheat in March and their crops are exceptionally good.

Corn and forage crops are growing nicely.

First cutting of alfalfa yielded from one and one-half to three tons per acre.

Bellefourche:

During the first part of the week crops continued to fire, but the weather was not warm enough to cause extreme injury. A rain of over an inch on July 5 stopped firing completely and will, no doubt, enable the oats and barley to ripen without further injury from drought.

Barley is now nearly ripe and oats is commencing to turn. The plats that were not injured so badly by drought seem to be ripening first.

All cultivated crops are in good condition and are growing rapidly.

Maximum temperature 96°; Minimum 46°; and Precipitation 1.09 inch.

Big Springs:

Most of the days of the week have been cooler than those of the previous week, though we had one real hot day. Maximum temperatures 103, minimum 67, wind velocity 7.3 miles, evaporation 3.12 inches, precipitation .12 of an inch. The light shower received revived the crops somewhat, but was too light to be of much permanent benefit. It has been nearly a month since we had the good rains reported previously, and crops are beginning to need rain again. The work for the week has consisted of hoeing weeds out of the plats, trimming plats, and doing some cultivating.

Colby:

The drouth continues. It has looked much like rain several times this week, but no rain has come. Harvesting on the station was finished this afternoon with the exception of six of the spring grain plats on the D. L. A. field, which are waiting for the arrival of a new sickle. The oats are all poor but the spring wheat after fallow is quite good. Corn is about two-feet high. That after fall plowing is suffering rather severely.

Weather for the week: - Maximum temperature 101°; minimum 41°; and precipitation .05".

Dalhart:

The grain sorghum crops have made a splendid growth during the past week and are from 8 to 12 inches high. During the fore part of the week the sorghum plots were thinned out to stand and some hoeing done. The most of the corn, which is from 30 to 36 inches high, has been suffering for want of moisture all week. On one field the corn that was planted for early feed every other row is being cut out and fed to relieve, if possible, the rows left standing. Weeds are well under control and there has been less trouble from them during the present season than for several seasons past. On account of a shortage of labor in this vicinity crop conditions in general are not as good as the season would seem to warrant.

The weather continues hot with considerable wind. Maximum temperature for the week 99; minimum 55; precipitation .25 inches.

Garden City:

The weather the past week has been about normal for this season of the year, except that we have had a greater wind movement than usual. Hot winds occurred on two different days.

Wheat on fallow was out on the 2d of July. Wheat on continuously cropped land, and all barley and oats, was a failure. The yield will be very light, even on the fallow, due mainly to the dry weather and hot winds which prevailed during the time the wheat was in blossom. Many heads are well formed and, at first glance, appear to be well filled, but on close examination are found to be entirely void of grain.

Corn, sorghums, beans, and cowpeas, are making a fair growth and are looking good thus far in spite of the hot winds.

Weeds are also making an excellent growth as it is impossible to obtain help and we have not been able to keep weeds entirely under control.

The second cutting of alfalfa under irrigation will be made during the coming week.

All row crops were cultivated during the week.

Grasshappers and potato beetles are numerous and an attempt is being made to control the former by the use of a bran mash mixture and the latter by spraying with Paris Green.

Maximum temperature 102; minimum 50; evaporation 2.829"; precipitation .23" on July 4, and .15" on July 5; wind velocity (8' anemometer) 13.8 miles per hour, (2' anemometer) 9.8 miles per hour.

Havre:

Climatic conditions have been more favorable for the growth of crops during the last half of June than they were during the first two weeks. Temperatureshave been more nearly normal and local rains have materially benefited some communities. At the station we had a thunder shower on the 18th when .40" fell in about .10 minutes. On the night of the 27th and on the 28th we had a slow rain amounting to .93". This rain has hastened the

Havre, continued:

the maturity of all grains especially oats and barley, both of which seem to be filling quite well. All grain looks thin due to the fact that the stooks have all been killed by the hot weather early in June. Generally there are about 2 heads per plant. The straw is very short and much difficulty will be experienced in harvesting.

Winter rye for seed was cut on the 6th. Some of the barley will be ripe by the middle of the coming week. All fallow land is being disked.

The following shows the evaporation and precipitation for the month of June, taken from the station records for the past three years:

	Precipitation	Evaporation
1916	4.32"	5.010"
1917	1.59	6.092
1918	1.51	8.177

Huntley:

Discing roads and hoeing alleys and row crops was done this week. Small grain plots were rogued.

The cold nights and moderate temperatures during the day have been of great benefit to small grain crops. Winter wheat, though badly burned on most plots, is ripening and filling slowly. The small amount of moisture still in the soil is thus being used to the best advantage. With the exception of occasional plats of barley, spring grains show few signs of ripening. Corn is making good growth, though not so great as was made during the preceding weeks.

Much winter wheat in this district is ready for the binder and in a few instancesharvest has already commenced.

Temperatures for the week: Max., 97; Min., 38. Precipitation .05".

Judith Basin:

Clear and windy weather prevailed during the week. Only one light shower fell, and more moisture is needed. Maximum temperature for week 86, minimum 34, precipitation .19 in., evaporation 1.613 in.

Alfalfa, clover, and Brome grass, grown on the rotations, was weighed during the week. The alfalfa on plat B of Rot. 42 yielded at the rate of 1900 lbs. to the acre, while that on plat C only yielded 1500 lbs. per acre. The clover on plat B of Rot. 11 yielded 1850 lbs. per acre. Brome grass yields ranged from 800 lbs. per acre on plat C of Rot. 41, to 2600 lbs. per acre on plat A of Rot. 10. The one year old plats of Brome grass gave approximately twice the yields of the two-year old plats.

The alfalfa varieties have been weighed and Mr. Woodward reports that Medicago falcata, a yellow flowered variety, gave a yield of about two tons to the acre, which wasthe best obtained.

Spring grain is now heading out. While no burning has yet taken place, the grain is very short for this time of year, and large yields are not expected.

Mr. Westover, of the Forage Crop office, has been here since July 2 to look after Forage Crop work.

Lawton:

The severe drought in this part of the section was broken during the night of July 1, when we received 2.45" of precipitation within two and one-half hours. The precent of run-off was heavy but ground that was well cultivated held lots of water. Altho a fairly good rain was received over quite a large scope of country the heavy down-pour seemed to be rather a local affair. Since the rain we have had very good growing weather and those crops that were not burned by the hot winds have made a rapid response. Early plantings of sorghum crops throughout the county were so severely damaged by the hot winds that their recovery will be slow and of not much importance. A good many fields of sorghums have been planted since the rain with the hope of producing some forage. Cotton throughout the county looks well and is the most promising crop in sight at the present time.

Milo and cow peas following wheat in rotations 249 and 250 were planted on the 29th. The remainder of the corn plats except M. C. C. were harvested on the 6th.

Maximum temperature for the week	--- 101.
Minimum " " " "	--- 64
Precipitation " " "	--- 2.47".
Total precipitation for June	--- 3.08"
Normal " " "	--- 3.71".

Mandan:

Horticulture.

Cultivation and hoeing of plats was continued throut the week.

Currants are ready for picking.

The early peas in the variety trials have been already picked.

A fewlsmall fallow strips were plowed.

The first set of field notes were taken on the tomato breeding plats; some of the crosses have already set a good crop of fruit.

The fruit on the Juneberry seedlings was picked and out of the 300 plants, 18 individuals were selected for further trial and propagation.

In spite of the protracted drouth, horticultural plantings so far show no signs of suffering.

Arboriculture.

The plowing for the summer fallow, field P, has been completed; hoeing and weeding was done on the remainder of same field and also on fields O and L.

Mr. Henchel leaves Monday for inspection work in Northern North Dakota, returning to the Station before going into Montana. Mr. Danson leaves Monday for inspection work along the South Branch of the Northern Pacific, returning the last of the week.

The Scotch pine two-year seedlings received from the Forest Service and planted this Spring, were counted July 1, and showed the stand was 88% living for the entire planting of 25,900.

Mandan, continued:

Agronomy

Dry and cool weather continues with indications of rain today. Small grain in the Main Field, with a few exceptions, is still in good condition, but in the South Field the grain is practically dried up with the exception of the plats which were fallowed last season.

Brome grass in the rotations and for the Office of Drought Resistant Plants was cut the first of the week. It yielded from 1450 pounds per acre in the rotations to 2350 pounds in rows in the forage tests. The wheat grass (Agropyron desertorum) in rows yielded at the rate of 3200 pounds per acre. This was better than any of the other wheat grasses and a little better than the best brome yield.

Peas and Sweet clover were turned under for green manure. The growth was not heavy in either case.

Corn was thinned in the rotations. The stand is not as good as usual.

Maximum 93 - Minimum 48 - Precipitation, none.

Cooperative Grazing Experiment.

The cattle were weighed on July 1, and had made very good gains for the month of June. The cattle in the small pasture gained as much as those in any of the other pastures. However, this pasture will no doubt go down during this month. In the rotation pasture the cattle were changed from the A to the B pasture on July 1.

The clipping experiment shows that the grasses have made practically no growth during the past two weeks.

North Platte:

Dry weather continues. All small grain crops are ripening very rapidly and prematurely. Harvest is well under way on the station and the bulk of it will be finished next week, if present climatic conditions prevail.

Corn, which is well advanced for the season and which had showed no signs of previous drouth injury, began to roll its leaves on the 3rd.

Scottsbluff - (Report for week ending June 29, 1918):

The past week has been exceptionally dry and windy. The humidity has been very low and several days have been marked by exceptionally high evaporation.

Many of the small grain plats are showing the effects of the dry weather; wheat especially is drying up, the leaves near the base of the plants all being dead. Oats and barley, however, are still quite green.

So far we have escaped all destructive hail storms; however, some of the plats will make fair yield, but the majority will be cut short unless more moisture is secured soon.

Grasshoppers have damaged several of the Oats plats to some extent. A few applications of the usual bran mash poison have been made with apparently successful results.

Scottsbluff, continued:

The alfalfa meadow plats which were cut the previous week were weighed up during the week. The following tables contain the weights secured:

Rot. 42 B - 114# -- -- Rot. 42 C - 102#.

Mr. O. J. Grace visited the Station during the week.

Maximum temperature for the week 94; minimum 51; precipitation T; evaporation 2.226 inches.

Scottsbluff:

Exceptionally hot, dry weather continued throughout the week. All small grain crops are now firing badly and some of the plats are beyond recovery. The summer fallowed plats look the most promising. Corn is about 3 ft. high. The plats are practically free of weed growth and the corn is yet nice and green.

The soil is becoming dry and hard and the corn will not be able to stand the drouth much longer. Grasshoppers are attacking some of the corn plats, having migrated from the dried up small grain plats.

Sorghum in some of the variety tests is up about 8" and is beginning to turn yellow, due to lack of moisture.

A severe freeze, which did considerable damage to growing crops, was reported in the Valley a few miles north of the Station on June 30. The Minimum temperature on the Station being 38 on that date.

Mr. H. W. Thurston, Plant Pathologist from the State University is spending a few weeks on the Station studying disease resistance in Potatoes.

Maximum temperature for the week 97; minimum 38; precipitation T. Evaporation 1.789 inches.

Sheridan:

Fair and warm weather has been the program for the past week, and all crops have made a satisfactory growth. All small grains are filling in good shape, with but very little firing except that some of the winter wheat plats burned slightly on one hot day. White Smyrna barley is ripening now, as well as a field of oats and winter rye, but it will be about 10 days before they are ready to harvest. Winter wheat is filling in fine shape and will make a very good crop, of high quality grain, if the moisture supply under it will hold out for a week or so.

Several of the early corn varieties are tasseling now, and corn on rotations stands about 2½ feet high. Cultivation of corn is in progress and it has made such a rapid growth during the past week that this will probably be the last cultivation that can be given it. Fallow plats are being harrowed to break a crust formed by recent rains, and roads are being disked to eradicate weeks, and indentification stakes are being placed at the ends of the plats to avoid mistakes in harvest and threshing.

Sheridan, continued:

Our winter supply of coal was hauled this week and stored in the basements, although neither of the basements are entirely finished.

Affalfa and sweet clover hays, as well as Brome grass, were hauled from the forage field and Rotations 41 and 42 and weighed, but results have not yet been figured to tons per acre.

During June the precipitation totalled 1.36 in., which is to be compared with 2.10 in. as normal. Although there was a shortage of .64 in., there was an abundant supply of moisture in the soil this spring and it is thought that there is sufficient left to mature small grains.

Weather data for the past week was as follows: - Max. 94; Min. 40; Precipitation .14 in.;Average wind Velocity 3.7 mile; Evaporation 1.532 in.

Tucumcari:

The character of the weather remains practically unchanged from that of previous reports. On July 4 we had a shower of .56", but unless this is followed soon by more rain, it will afford very little relief. The soil is moist to a depth of about 6 in., and on the 5th we started planting About nine acres of cowpeas have been planted, and we are now planting feterita and dwarf milo in the general crop field. It is getting so late that we will do practically all of our planting now with the expectation that we will get sufficient rain in the near future to effect germination of the seed and start growth. Corn that was planted on the 5th of May has just emerged with excellent stands on all the plats.

Field work has consisted of cutting yucca, planting, soil sampling, and grinding feed.

Maximum temperature for week, 99; Minimum temperature, 58; Wind Velocity 7.8 miles; Evaporation, 3.120 inches.

Woodward:

The work for the past week has been in cleaning up the station. This has been one of the worst weed years we have experienced. We have most of the station clear of weeds now and everything is cultivated up to date. The rotations are clean and the crops are showing up in good shape. The corn is looking good, but it will not stand much more dry weather as the brace roots are all broken off by the winds and some of the feeders broken. The corn is leaning badly, some of it is nearly down. It has been cool enough the past week that the tassels came out without burning and fertilization will, no doubt, take place. It may be possible that we will have to cut the corn before it matures on account of its condition. The broomcorn on the M. C. series is growing rapidly and will be heading soon. The first date of planting on the Cereal Block is heading. The red amber has been in head for nearly a week. The later plantings of kaoliangsare heading at this time.

Woodward, continued:

Soil samples to a depth of six feet were taken on plats A and C of milo, corn, and broom corn, and on one plat of cowpeas. The moisture supply is good yet, but we cannot stand many hot winds. Two days this week were pretty hot with a rather brisk southwest wind. We did not get around to thresh this week, but we will get that out of the way next week. One of our neighbors began threshing his wheat yesterday and will finish sometime today. His wheat is making from eight to ten bushels. One farmer has begun plowing his wheat stubbles already.

Weather report: Maximum temperature 99 on the 4th, Minimum 59 on the 1st; average hourly wind velocity 8.9 miles; evaporation 2.665 inches; precipitation 0.07 inches.

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR WEEK ENDING JULY 13, 1918.

Amarillo:

Weather for the past week has been more or less unsettled, high temperatures and moderate south winds prevailing. A few small thunder showers netted us half an inch of rain that at least temporarily has revived the drouth stricken crops. Wheat on the DLA plats was harvested during the week and some after harvest soil sampling was done. The station now is fairly well cleared of weeds and all we need is some moisture to set things in proper shape. Weather data is as follows: Maximum temperature was 100 on the 10th and 11th; Minimum 60 on the 10th. Average hourly wind 7.5 miles. Precipitation .49 inch; evaporation, 2.476 inches.

Mr. J. S. Cole of Washington, E. F. Chilcott of Woodward, and W. D. Griggs of Dalhart were visitors here yesterday and today. The former two left for Big Spring early this morning.

Ardmore:

Maximum temperature, 87; minimum, 60. Precipitation as follows: July 9, .47 inch; July 11, .93 inch; July 13, 1.32 inches - total for the week, 2.72 inches. None of the rains were accompanied with hail or wind, and were remarkable for the slowness and gentle character in which they fell. Very little or no damage was done to heavy small grain, which is almost ripe.

Prospects for the production of a crop never were better in the history of the station. Some early seeding of small grain was ripe prior to the rains, but much of it will be greatly benefited. Corn is about three feet high and sorghum two feet high. Both crops are in ideal condition and have not suffered during the season for lack of moisture. We have about 150 acres in these two crops and expect the production of a remarkable crop.

About 20 acres of oats which were seeded in March were cut this week.

Sweet clover which was cut about three weeks ago was stacked this week. It was in very poor condition as it had suffered much damage from rain. Almost all the leaves were lost. The yield from 13 acres was 40.0 tons. At least one-ton per acre was lost by damage.

Big Spring:

Maximum temperature for the week, 101; minimum, 66; evaporation, 3.15 in.; wind velocity, 5.8 miles; precipitation, .12 of an inch. With the exception of the light shower received on the night of the 8th, the weather remains dry and the crop conditions in the county are not as good as stated in the previous reports. The crops on the station are beginning to suffer some on a number of the plats, but have not reached the extreme danger point as yet. Feterita planted on May 18, is beginning

Big Spring, continued:

to head in spots and will be short unless rain comes soon. Peaches are beginning to ripen in the station orchard and a fair to good crop is promised with a number of the varieties. The C. C. and rotation plats were cultivated during the week; also the varieties of cotton and cowpeas. We now have the crops in the plat work clean of weeds and in good shape.

Colby:

This week has been characterized by somewhat cooler and cloudy weather. Rain was recorded on four days of the week, although the total was only .47 inch. Corn is beginning to need rain rather badly, especially that on fall plowing. The sorghums are making discouragingly slow progress. Harvesting was finished Friday. Threshing was begun yesterday, but is being delayed by a shower which fell last night. None of the D. L. A. plats have been threshed as yet. On summer fallow the yield of winter-wheat was 12.9 bu. where sown with an ordinary 8" drill and 15.4 where sown with Salmon's lister drill. The grain is badly shriveled, test 56#.

Weather for the week: Minimum temperature 55, Maximum 92; Precipitation, .47".

Garden City:

The hot dry weather continues and all crops are beginning to suffer. A total of .32" of rain fell during the week, but that amount was divided into three showers and a very little relief resulted.

The second cutting of alfalfa under irrigation is being put up, and a fair yield obtained.

Thistles and weeds were mowed from small grain plats not harvested, and same will be raked and burned as soon as dry.

Corn was thinned during the week and weeds cut with a hoe from corn plats and many of the grain sorghum plats in the rotation and seed bed fields. Potatoes in moisture reduction and in rotations were also hoed and twice sprayed with Paris Green solution to kill the potato beetles withywhich they were badly infested. In addition to the Colorado potato beetles, we have three different species of blister beetles to fight.

Grasshopper poison was put out early on the morning of July 13, and good results are expected as most of the poison was spread on narrow strips of alfalfa left uncut around the borders and through the center of the alfalfa field where the hoppers had gathered in large numbers after the alfalfa had been cut from the remainder of the field.

Maximum temperature, 93; minimum, 57; evaporation, 2.260"; precipitation, .32"; wind velocity (8' anemometer), 11.4 miles per hour, (2' anemometer), 7.1 miles per hour.

Huntley:

Cool weather and frequent showers throughout the week have delayed the ripening of small grains to some extent. Sixteen plats of winter wheat and one of barley were harvested. The wheat is all tall enough to bind well, but the barley will have to be mowed and raked on all methods but summer fallow. Yields of winter wheat will be somewhat lowered because of rust which is prevalent in some of the plats.

A round of soil samples taken during the week show the soil of small grain plats to be dry to a depth of four feet. On the M. C. corn series the moisture is plentiful to a depth of six feet. Corn is growing slowly and a few tassels are appearing.

On field G the hogs in Rotation 652 were moved from the plat of field peas to the barley plat. The gains made on peas were very satisfactory, the average daily gain per pig being 1.71 pounds for the 10 hogs during the 14 day period. Fall pigs on the brome grass and alfalfa pastures were removed. It was planned to re-stock these pastures with spring pigs, but the slow recovery of the forage does not at present warrant this.

Temperatures for the week: Max., 90; Min., 52.

Precipitation: .44 inches.

Judith Basin:

Weather continues dry until the night of July 13, when a rain started which is still falling. Maximum temperature for the week, 87; minimum, 48; evaporation, 1.589 in.; precipitation, .30 in.

Work at the station included cutting grass plats for hay, grading roads, cultivating, and spraying potatoes, hoeing weeds, and plowing up some flax, which was badly infested with Russian thistles. The Russian thistle has not been a serious weed pest in the past, at this Station, but seems to be getting more common.

Mr. Westover, and Mr. Woodward, who have been looking after Forage Crop work here, left for Havre on July 9.

Lawton:

With the exception of one day the temperatures during the past week have been fairly comfortable. Crops have made pretty good growth, especially cotton and sorghum. Most of the kafir corn plats are heading. But little of the milo will have an opportunity to get that far along by reason of the chinch bug damage.

Corn stubble that goes into wheat this fall has been disked. Listing and early fall plowing in the continuous cropping plats for Winter wheat have also been prepared.

Lawton, continued:

An unusually severe electrical storm occurred on the night of the 10th, but failed to result in precipitation of any importance in this locality. A good rain was reported south of town for a distance of several miles.

Winter wheat was threshed during the week and the following yields represent the 1918 crop for this station:

Wheat on disked corn land	2.6 bu. per A.
" " " cane "	0.0 " " "
" " on sweet clover plowed under	1.3 " " "
" " Continuous Cropping, L.F.P.	0.0 " " "
" " " " E.F.P.	2.6 " " "
" " " " Subsoiled	3.3 " " "
" " " " Single listed	2.2 " " "
" " clean summer tillage	5.6 " " "
" " " " " and top dressed	9.1 " " "
" " Double listed and manured	0.0 " " "

Spring wheat failed in all cases, and the same is true of oats.

Mandan:

Horticulture.

Cultivation and hoeing was continued throughout the week.

Dwarf Milo was seeded in two blocks of apple trees in the Hardiness Experiments; this crop is to be left over winter as a cover crop and to hold the snow.

The potted fruits in the green house were moved out in the open.

All the ornamental sample hedges were trimmed.

The currant varieties were picked and gave a good crop/

Onions and other root crops in the variety trials were thinned to the proper stand. Tomatoes were pruned and tied up.

Arboriculture.

Mr. Henchel left Monday and has visited cooperating farmers along the Soo Line North to Minot, where he expects to stay over Sunday; he will continue Northwest to Crosby, returning the last of next week.

Mr. Danson visited Cooperators along the South Branch as far as Mott, and along the Milwaukee as far as New England, going from there to Medora through the Badlands and back on the main line of the Northern Pacific.

Both Mr. Henchel and Mr. Danson report that the trees are suffering from the drouth, especially where cultivation has not been of the best.

Practically all farmers who received trees in 1916 are now beginning to prune, which is one of the practices we are endeavoring to discourage. By showing them photographs of pruned and unpruned trees they readily see the advantage of the bushy tree for the dry sections.

Mr. Danson leaves Monday for Miles City, where he will work East along the Milwaukee into South Dakota.

Mandan, continued:

Agronomy

The weather is still dry and cool. Only .34 inches of rain has fallen during the past week, in two showers. Grain in the main field is still in fair condition. Oats is ripening and part of it may be ready to harvest next week. All small grain in the south field, with the exception of grain on fallow, has been mowed. The plats had dried up b up beyond the possibility of making a crop.

Corn in the rotations, corn varieties, and sorgos were given the second cultivation during the week. Corn is making rapid growth at present. The early planting of corn for the Office of Corn Investigations is much ahead of any other on the station.

Maximum, 86°; minimum, 47°; Precipitation, .34 inches.

Cooperative Grazing Experiment.

Quadrats in the clipping experiment were clipped during the week. The various grasses were badly dried up and had made but little growth during the past month.

North Platte:

There is nothing new to report in regard to the weather. June closed with a rainfall deficiency of about 1.25 inches. July to date has been altogether dry here. Good rains have, however, occurred during the week both east and west of us.

Moderately cool temperatures with cloudy forenoons have stayed the dry weather affects to some extent, but there is practically no moisture in the cropped soil. Corn leaves roll as soon as the sun comes out.

About two days more will finish the harvest. Grasshopped are very numerous and have given abundant trouble in cutting binder twine. Experiments in treating twine with gass tar have reduced this annoyance to some extent, but have not been an entire success. Some grasshoppers seem to be entirely without the senses of taste or smell.

Scottsbluff:

A rain of .43 inchesfell on July 11, which will be of much benefit to corn and Sorghum, but came too late to do small grain any good. Oats and barley are ripe and will be harvested the coming week.

Field work during the week consisted of cultivating corn, killing weeds, and poisoning grasshoppers and gophers. Field peas which had obtained a height of about 18" were plowed under during the week, making a very good green manure crop.

The self-recording combined soil and air thermograph which has been in for repairs was returned to the Station and was set up during the week.

Maximum temperature for the week, 88; minimum, 53; precipitation, .51 inches; evaporation, 1.377 inches.

Sheridan:

The week past has been rather cool with frequent showers, which, although adding but little moisture to the soil, helped crops considerably, cutting down transpiration. There has been no burning during the week, and there is plenty moisture under all small grains to mature them.

Wheat, barley, and oats are filling in fine shape, and more especially winter wheat, the thinner rates of which have immense heads. Winter rye will be ready for harvest the 15, after which date crops will be ready almost daily.

Practically all of the corn has tasseled, and one flint variety was found this morning in silk. Sorghum heads are now in the boot on Dakota Amber plats. All roads are fairly clean of weeds, and all plats are trimmed and weeds are now under control. Insects on potatoes are also under control.

Trees in the shelter belt have made a surprising growth this spring, and very few insects have bothered them, although some have been found and exterminated. Willows have made the poorest showing this summer of any tree varieties on the Station.

The Annual Farmers Picnic came off yesterday with an attendance of about 300. At any rate, 40 autos were counted on the grounds at one time, and a number had either left or were not to the station at that time. It was gratifying to note the interest dry farms especially took in the work being done here. The order of the day was inspecting the field, patriotic and other addresses, music, and sports. Particular emphasis was layed on the fact that farmers must utilize business men of Sheridan as laborers as there is absolutely no idle labor here and the draft of this month is taking every man in Class 1, which includes all those who have been granted agricultural extensions of time.

The weather records collected during the week were as follows: Max., 85, Min., 42; precipitation, .47 in., in four shoers; avg. wind Vel., 3.6 mi.; and evaporation, 1.426 in.

Tucumcari:

We are still looking for a good rain, but at present there seems to be none in sight. On two days of the past week we had severe hot winds which quickly dried the moisture out of the surface soil. Cowpeas planted last week are emerging very unevenly and more moisture will be required to bring out a good stand. The same is also true of the sorghums. We have been planting all the week and will about complete this work today - the 13th.

Mr. Trumbull, agriculturist for the ElPaso and Southwestern Railroad, visited the station on the 11th in company with our county agricultural agent.

Maximum temperature for the week, 99; minimum temperature, 62; wind velocity, 7.1 mil; evaporation, 3.273 in; precipitation,.21 in.

Woodward:

The past week has been rather unsettled although we received only 4/100 of an inch of rain. The evaporation was not so great as last week. The wind velocity was not so great and there was only one day of hot wind. The direction of the wind generally this week has been ranging from the northeast to eas and southeast. This has delayed the threshing of the increase plats because we have to set the machine so as to elevate the straw out of the east end of the barn and the wind blows it back, making it very disagreeable and blowing the chaff back with the grain. We managed to get the wheat threshed from the rotation and CC series, but it had to be run through the fan mill from three to eight times in order to get it clean. Some of the plats were quite weedy, having a large number of Russian thisles in them; this made it very difficult to clean as the stems were broken into small pieces and could not be separated from the grain without running it through the fan mill several times. The weights are as follows:

Plat.	Wt. in Bu.	Plat.	Wt. in Bu.
M.C.A.	Winter killed	Rot. 152D	6.3
MCB	6.0	" 153B	6.3
M. C. C.	9.8	" 154D	9.5
M. C. E.	8.8	" 155D	9.2
M. C. F.	6.2	" 156D	8.3
M. C. G.	9.7	" 402 D	8.0
Rot. 151D	8.2	" 570B	13.3

The wheat was of a better quality this year than last and much better filled. The stand was poorer this year than last, because we had to cultivate it to keep it from blowing out. Where it was cultivated the weeds came up thick, making it hard to handle. The wheat on the half acre plats had a better stand and was clean, and we are expecting a larger yield from them. It will be threshed as soon as the wind gets in a more favorable direction. The alfalfa in the east field was cut thiis week and hauled to the barn. The barn has about all the hay it will hold at this time. The quality of the hay is good. Bromcorn is heading on the M. C. Series alternate fallow. The lower leaves of some of the crops have burned somewhat but the crops still have a good color.

Mr. E. F. Chilcott left last evening (July 12) on about a ten-day visit to the other stations.

NOTES:

The Agricultural Appropriation Bill has not yet been passed. Expenditures of the Department are being made under Continuing Resolution, pending passage of the Appropriation bill.

Field men are requested to send in their weekly reports regularly and promptly.

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JULY 20

REPORT FOR THE WEEK ENDING JULY 20, 1918.

Amarillo:

The week opened with rain on the 15th and 16th, amounting to 1.35 inches. This wet the soil down about as far as the plowing depth or around six inches. It was noted that in the native sod a similar depth of penetration took place. The crops are temporarily revived and much of kafir and sorgo replanted a month ago and not yet germinated, is now coming up. A fairly good stand of these crops is now promised, but it will take a few days yet to determine upon this. The set back of other row crops by drouth was so severe that they are rather slow in making recovery and they will require more rain soon to keep them going. The cultivation of row crops the second time over is now in progress.

The station was visited Monday by Mr. E. O. Seicke, State Forester; Mr. J. R. Edmonds, Emergency District Agent - both from College Station, Texas - and also by the new county agent, Mr. L. W. Hillam, who takes the place of Mr. B. B. Holand.

Weather for the week was: Maximum temperature, 96° on the 14th and 15th; Minimum, 61° on the 18th; Hourly wind, 7.3 miles; Precipitation, 1.35 inches; Evaporation, 2.185 inches. The temperatures and winds have been considerably more moderate since the rain early in the week.

Big Springs:

The drouthy conditions that have prevailed here for the past six weeks still continue. We have not had but one light shower since the 8th of June. The crops are holding up remarkedly well and corn on the C.C. plats is over waist high and shows no signs of burning on the plowed plats. The listed plats are needing rain and will soon perish unless relief comes soon. Milo has grown so rank and suckered out that many of the plats are needing moisture and wilt badly during the heat of the day. Cowpeas continue to make good growth and have already produced more vine than up to October last season. The work for the week has consisted of hoeing weeds out of field crops, tinning some of the variety plats, cultivating fallow and uncropped lands to kill the weeds. A round of soil samples were taken on milo and corn during the week.

Maximum temperature for the week, 100°; minimum, 68°; wind velocity, 5.6 miles; evaporation, 2.85 inches; and precipitation, none.

Mr. J. S. Cole and Mr. E. F. Chilcott visited the Stated on Sunday, July 14. This is the first visist made by Mr. Cole to this Station since the summer of 1915.

Colby:

The week has been cloudy and rainy most of the time. We did some threshing Monday, but since then it has been too wet for that. The corn has been cultivated a second time, and some of the listed milo for the first time. On some of the milo plats there is practically no stand at

Colby, continued:

all, while on others it is fair. Until this week it has been too dry for the seed to come up, but not dry enough to keep it from rotting in the ground. Corn is beginning to tassel. The listed and summer fallow plats look fine; the spring plowed fair; and the fall plowed somewhat curled and dried up.

Weather for the week: - Maximum temperature, 95°; minimum, 62°; precipitation, 1.08 inches.

Dalhart:

All of the crops, with the exception of corn, have made a splendid growth during the past week. The corn is about four feet high and has dried up to such an extent that the production of grain is practically impossible, except on a few of the fallow plots which may mature a few ears. The milo and kafir plats are growing rapidly and a few of the earlier plantings are beginning to head. Cane and sudan grass is heading, and while it is rather short, will be tall enough to cut with the binder. The weeds are well under control, and, owing to the lateness of the season, it is not anticipated that they will be of any further trouble during the summer.

Maximum temperature for the week, 98°; minimum, 60°; precipitation, .53 inch.

Hays:

Maximum temperature for the week, 100°; minimum, 58°; precipiation, total of two showers, .76 in.

Corn and sorghums are looking better since the rains. Corn is perhaps 15% in tassel and few silks beginning to appear. Kafir is two feet high and milo and cane about three feet high, and looking fine.

Threshing commenced again Friday after a few days delay on account of dampness. Threshing of oats and barley has been finished. The winter wheat on the old part of the project and a part of the spring wheat has also been threshed. Results have not yet been checked, but thus far the yields are running approximately as follows:

Winter wheat 4½ to 30 bu., and spring wheat 4½ to 10 bu.
Quality of all very light, especially the wheats; oats and barley are better than the wheat.

Huntley:

Soil Sampling was finished early in the week and the rest of the time was put in in cleaning up roads, alleys, and row crops. Small grain plats were rogued. Harvesting of winter wheat and barley was continued, the latter crop being cut with a mower. Oats and spring wheat are ripening up rapidly and will soon be ready for the binder.

The annual picnic is in progress at the farm today; about 2,500 people being present.

Temperatures for the week: Max., 99°; min., 56°; Precipitation, .49".

Judith Basin:

A rain of 1.25 inches on July 14 did a great deal of good in Judith Basin, and crop prospects are more encouraging now than they have been in the past. Harvesting will soon start with winter rye, and winter wheat will probably be ready for harvest in the first part of August. Most all varietiesof spring grain are fully headed now, and a number are in the soft dough stage.

Work at the Station during the week included plowing under peas for green manure on the rotations, disking summer fallow plats, hoeing corn, and pulling out wild oats from some of the plats.

Maximum temperature for the week, 87°; minimum, 52°; evaporation, .875 in., and precipitation, 1.57 inches.

Lawton:

Crops have suffered intensely from hot, dry weather during the last week. We have had no rain since the first of July, which makes a critical and unfavorable period for the heading of grain sorghums.

These crops are firing to a considerable extent, and the present indications are that the production of grain from these crops will be very appreciably curtailed, even though we have sufficient moisture from now on.

Work done during the past week has been of a miscellaneous sort. During the last two days a small well has been dug and a fairly good supply of good water was obtained at a depth of about 8½ feet. City water at the present time is almost entirely unfit for drinking purposes without being boiled, and it is hoped that we will have a good supply of excellent drinking water from now on.

The maximum temperatures for the past week ranged from 91° to 102°. Most of the time they ran from 96° to 102°.

Messrs. Cole and Chilcott visited the Station Monday and Tuesday.

Mandan:

Horticulture.

Cultivation and hoeing was continued throughout the week.

Vegetables were harvested.

Budding stocks were trimmed up preparatory to budding.

Arboriculture.

Fields P and L have been hoed this week.

All the caragana seed has been picked and has been spread out on the seed house floor for complete ripening.

Mr. Henchel will finish his northern inspection trip at Harvey Monday, where he will be met by Mr. Cobb with the car. From Harvey they will go to Antelope Lake, nearby, to locate native specimens of the Northwest poplar for cutting stock this fall.

Mr. Danson is at Baker, Montana and will proceed to Mobridge and Isabel, South Dakota, where quite a few cooperating farmers are located. He reports rains in eastern Montana, but none in western North Dakota.

Mandan, continued:

Agronomy

Weather is still very dry, but is much warmer than it has been the past few weeks. Hot winds occurred on two afternoons of this week.

Winter Rye plats for seed were harvested early in the week.

Harvesting of oats in the rotations was completed today at noon. Sixty day oats in the variety tests were harvested yesterday. The oats in the rotations all ripened very uniformly, and were all ready to harvest on the same date. The indications are that there will be some very good yields. Fall plowing appears to be uniformly the poorest.

Wheat is filling rapidly, but is apt to be badly shrivelled.

Corn is starting to tassel at a height of about two-feet.

All fallow plats were worked with the spring toothharrow during the week.

Maximum temperature, 98°; minimum, 48°; precipitation, none.

Mr. J. M. Stephens is on a field trip to Huntley and Sheridan.

Mr. Cook, County Agent for Adams County, visited the Station the 19th.

Mr. Stewart Lockwood, Special Field Agent in Charge of Grasshopper Control, for North Dakota, visited the Station on the 20th.

Cooperative Grazing Experiment.

The cattle in the 30-acre pasture were weighed the middle of the month. They have made but slight gains for the first half of the month. It will, no doubt, be necessary to remove them to the reserve pasture soon.

North Platte:

Relief from the very dry weather which we have had for sometime came this week. Rain occurred on three days, totaling 1.40 inches. The fall was very gentle and there was scarcely any run-off.

Corn never looked better for the time of year. It will make considerable forage even if no more rains occur.

Harvest on the Station will be finished today. Threshing will not be started for another week, as it will be necessary to use the small labor force we have to put up alfalfa next week.

Scottsbluff:

Moderately cool cloudy weather prevailed throughout the week, a trace or more of precipitation falling every day.

Field work during the week consisted of cultivating and hoeing sorghum and bean varieties. More grasshopper poison was applied and a hopper catcher put into operation. Oats and barley are in the shock. While no recording breaking yields are expected, many of the plats will produce an average yield or better. Wheat on the continuous cropping series, with the exception of the fallowed plats also was cut during the week. This was very short and the yield will be light.

Corn is about five-feet high and is just beginning to tassle out. Some of the plats are very badly infested with smut.

Dr. E. M. Wilcox and Mr. H. W. Thurston, Plat Pathologists, who have been making scientific investigations on the Station, returned to Lincoln yesterday.

Maximum temperature for the week, 91°; minimum, 53°; precipitation, .26 in.; evaporation, 1.166 in.

Sheridan:

Showers and cloudy weather have prevailed during the week, which has slowed up the ripening of small grain and spoiled a good deal of hay in this section which was then being cut. It has rained every day within sight of the Station, but here we have only gotten .25 in.

Grain has ripened slowly and has filled well. Winter rye in the variety field and an increase field is now in the shock, and harvesting is being done on a field of early oats. Barley rates of seeding, an early date of seeding, and White Smyrna in the variety field are ready to cut, as well as six varieties of winter wheat. All of the winter wheat plats on rotationswill be ready for harvest by Monday, unless rain falls in the meantime.

We are making a special platform, to set the separator on at threshing time, and covering the whole surface with sheet metal in order to make cleaning up around the machine easy and to make mixing of varieties impossible. We are also remodeling the separator in order that it will be possible to clean it with a minimum of labor, by putting in parts that can be removed and trap doors here and there. We are so arranging it that once the separator is set on the platform, it will not be moved until threshing is finished, but the platform will be moved with the separator setting on it when it is necessary to move it to a new stack.

All corn varieties have tasseled out, and five varieties are in silk. All of the corn on rotations is in silk. Dakota Amber sorghum is heading, as well as sudan grass. Corn stands practically as high at the present date as it did last year when harvested. Millet is also coming into head.

Wild sunflowers and Russian thistles have been hoed out of most of the alleys and roads on the Station during the week. Potatoes have been sprayed with arsenate of lead, but new batches of bugs are continually coming on, making it necessary to repeat the process at intervals.

The weather during the week, as shown by data, was as follows: Maximum, 98°; min.,52°; Precip.,25"; Wind Vel.,2.5 mi., and Evep. 1.225 in.

Tucumcari:

There was no change in the weather for the past week, and we have very little hope of producing anything this year. Some very good showers occurred in the vicinity of the Station during the week, but these were very local. The greater part of Quay County is facing a complete crop failure. The writer made a quite extensive trip over the southern part of Quay Co. the past week with Mr. E. M. Yates, County Agricultural Agent. Everywhere we went farming is at a standstill and the people are very much discouraged, as last year was practically a crop failure over the plains section of the County. Many settlers are leaving and say they will never return to this

Tucumcari, continued:

country to live.

Maximum temperature for the week, 97°; minimum temperature, 63°; Wind velocity, 6.5 miles; Evaporation, 2.449 inches; Precipitation, .26 inches in three showers.

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BUREAU OF PLANT INDUSTRY

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U. S. DEPARTMENT OF AGRICULTURE.

JULY 07

REPORT FOR THE WEEK ENDING JULY 27, 1918

Amarillo:

The week opened up with two small showers amounting to .29 inch. This tempered the atmosphere to moderate temperatures and wind the first part of the week, but since then the thermometer has been going well over 90° during the day and strong south winds have prevailed. Crops, while not yet suffering, are again beginning to show the need of rain. Corn on the fallow plat C is two feet tall, while on the rest of the plats it is from a foot to 18-inches in height. Milo on last year fallows and early fall plowed plats is up about 18 inches and looking fairly vigorous. On other plats the crop is only around a foot in height and looking spindling. From a fourth to a half a stand of kafir came up shortly following the replanting of that crop five weeks ago. The rest of the seed that layed dry in the soil has germinated since the rains of the second week of this month so that now a fair stand, but very uneven growth is presented on plats in kafir. The same isttrue of the sorgo, though only a very little of this crop germinated prior to the recent rains. Cowpeas are holding their own with moderate growth varying at this time from six to eight inches in height. Sudan grass and the pinto beans have never looked well and seemingly improved but little with the rains we have had. Cultivating row crops the second time was completed this week, and they are being rounded over once more with the hoe. Our small grain crop was threshed out yesterday; highest yield of plats threshed was Spring Wheat on the Winter Wheat C. C. plat B, which went at a rate of 10.5 bushels per acre. The average of the 16 plats of Spring Wheat threshed was four bushels per acre. The ten plats not harvested but mowed were total failures in that they were not even worth raking up to secure straw weights. Oats on C. C. B yieled 8.1 bushels, and on C 6.3 bushels per acre. These were the only oats plats harvested.

Early soil sampling in the Spring in the W. Wheat CC plats showed that the E plat was rather better supplied with moisture than the B plat and yet on the latter the rate of yield was 10.5 bushels per acre, while on the former it was 8.7, or nearly 2 bushels less per acre. The only thing the difference can be charged to seems to be that the E plat having been subsoiled was not in as good condition for wheat production as B which was fall plowed. Thus the experience of this year goes to confirm what seems previously to have been the facts in the case.

Weather data for the week are - Maximum temperature, 95° on the 24th; Minimum, 62° on the 26th; Average hourly wind, 8.7 miles; Precipitation, .29 inch; Evaporation, 2.223 inches.

Ardmore:

Maximum temperature for the week, 91°; minimum, 52°; precipitation, .08 inch. The week has been very favorable for the growth of crop and for harvesting. Most of the oats on this Station have been harvested

Ardmore, continued:

and wheat is nearly ready for harvest. The harvesting of small grain is underway throughout this section. Wheat is exceptionally good over this country and many fields doubtless will yield 35 or 40 bushels per acre.

Corn and forage crops on the Station are the best in the history of the experiment farm. There is an abundance of moisture in the soil and the production of an enormous crop is to be expected.

The Annual Farmers' Picnic which was held on the 26th was a notable success. About 2,000 visitors were on the grounds. Congressman Harry L. Gandy addressed the gathering. A profit of $ 350.00 to $ 400.00 was made from the sale of refreshments and dance tickets. The money goes to the Red Cross.

Mr. Aune, Superintendent of the Bellefourche Experiment Farm visited the farm on the 26th.

The First Annual Farm Boys' Encampment washeld on the Station Grounds from the 22nd to the 26th. This work was undertaken in cooperation with the County Agricultural Agent of Fall River County. Sixty-five boys were enrolled from Fall River and adjoinging counties. The camp was donducted in military style, and classes and demonstrations in methods of farming were given daily. The encampment was successful beyond our most hopeful expectations. The boys were especially well pleased and it has been decided to make the encampment an annual affair.

Colby:

The week has been rather rainy but very little rain has fallen. The threshing on the D.L.A. plats was finished yesterday. The average yield of winter wheat was 17.0 bushels; 19.8 on fallow; 11.2 on late fall plowing; 9.7 on early fall plowing; 6.2 on corn ground; 6.5 on milo ground; 20.7 after green manure rye; 2.2 in stubble. The highest yield was 29.2 on 554; the lowest 2.2 on 574 D. The highest yield of Spring Wheat was 6.2 on M. C. C.; the lowest, 0.3 in M. C. A. The highest barley yield was 11.7 on M. C. C.; the lowest, 2.1 on corn ground (Rot. 6). Oats were practically a failure. Corn is tasseling.

Weather for the week: - Maximum temperature, 98°; minimum, 60°; precipitation, .23 inch.

Dalhart:

All of the sorghum crops have made a good growth during the week and several plots of the early varieties are heading out. None of the sorghum plots are suffering from want of moisture, but the most of the corn plots have dried up to such an extent that recovery is impossible. Cow peas have not made a heavy growth, but the indications are now that a good seed yield will be obtained. The cow peas will be ready to harvest in about ten days. During the past ten days some plant lice have appeared on several of the milo plots, but not in sufficient numbers to be of material damage.

Dalhart, continued:

Maximum temperature for the week, 98°; minimum, 61°; precipitation, .40 inch.

Garden City:

The weather the past two weeks has been variable again, hot and sultry days alternating with days of lower temperatures and light showers. We have received a total of 2.56 inches of precipitation in the past two weeks, falling in six different showers varying in amount from .02 in. to 1.15 in. The larger showers came in hard dashes and considerable runoff occurred; this is especially true of the rain of 1.15 inches which fell on July 26.

Field work has consisted of cultivating and hoeing weeds from the crops. Plats were also trimmed and the roadways will be plowed Monday.

Millet was again replanted on the 23d. This makes the third time we have planted but have failed to secure stands from former plantings, except on one plot of moisture reduction millet in eight inch rows and a test plat of Kursk millet sown in the same manner. The Kursk millet will be ready to harvest within a week.

Grasshoppers and blister-beetles continue to be numerous in spite of our efforts to poison them. A few chinch bugs appeared on the Station sometime ago, but they have not been in sufficient numbers to do any damage.

Maximum temperature, 102°; minimum, 60°; precipitation, 2.56 in; evaporation, 4.387 in; average hourly wind velocity (8' anemometer), 10.2 miles; (2' anemometer), 6.8 miles.

Huntley:

Generally cooler weather has prevailed throughout the week, the nights being unusually cool for this time of the year.

Spring grains are nearly all ripe and the earliest plats of oats and flax have been harvested. Most of the oats is too short to bind, so it is being cut with a mower. On the heavier soil, corn is beginning to show slight signs of drought, but satisfactory growth is still being made.

Hogs on barley pasture were removed. During the fourteen day period the ten pigs did little better than hold their own on this forage. The crop, in addition to being light, contained considerable percentage of bearded barley, which was refused by the hogs.

Dry land farmers in the neighborhood have harvested practically all their spring grains and some have finished threshing.

Temperatures for the week: Max., 92°; Min., 43°. Precipitation,27".

Mandan:

Horticulture

Some hoeing was done; also some plowing.

Raspberries are ripe, but the yield is very poor due to the drouth.

Mandan, continued:

Tomatoes are ripening in the breeding plats and in the variety trials.

Field labels are being prepared for all new plantings.

Three swarms of bees were transferred into new hives and 40-lbs. of honey were secured.

Mr. Max Pfaender spent several days with Mr. Cobb on a trip to Antelope Lake, making observations along the road on winter injury.

Aboriculture.

Mr. Cobb left for Harvey, N. D., accompanied by Mr. Pfaender, and met Mr. Henchel at their destination.

After locating native trees for cutting stock and visiting a number of co-operating farmers on the way back, they were back at the Station Friday night, having covered some 400 miles.

Mr. Danson is at Isabel, S. D., and will work that section, proceeding, when finished, to Pierre, S. D.

Mr. Henchel will leave next week for Montana on inspection work, which will probably necessitate his being away till fall.

Agronomy

The long drouth was broken by over two inches of rain during the week. The soil was wet down over two feet in corn and fallow and over a foot in grain. This moisture will be of benefit to corn and the later grains.

The only field work done was the harvesting of some bulk oats for feed.

Maximum temperature, 95°; minimum, 45°. Precipitation, 2.13 in.

Mr. Chas. H. Clark, in charge of Flax Investigations, is here to spend sometime in connection with the Flax Work at this Station.

Mr. Dan. Hanson and Mr. Seamans visited the Station during the week.

Cooperative Grazing Experiment

The rain has been of much value to the pastures. The grasses which were badly dried up are now starting new growth.

Scottsbluff:

The past week was marked by cloudy and unsettled weather. On July 25 a 48-mile gale did some little damage on the Station, breaking off branches from young trees and bending the corn down quite badly. It was accompanied by a rain of .20 inches.

All the remaining small grain plats were harvested during the week. Much re-shocking had to be done after the hard wind.

Throughout the valley the grasshoppers situation has become very alarming. The County Council of Defense has now put their request into a for the form of an order that every farmer use both the poison and also the hopper-catcher. A vigorous campaign has been carried on against the grasshopper on the Station and they have been kept pretty well in check.

Scottsbluff; continued:

A round of moisture determinations were completed on the M. C. Series of Spring Wheat, the soil being almost entirely dried out.

Maximum temperature for the week, 92°; minimum, 53°. Precipitation, .25 inch. Evaporation, 1.159 inches.

Sheridan:

A couple of stormy days during the past week have slowed down the harvesting of ripe small grains. At least 100 plats are now ready to cut, the most of it being winter wheat - rates and dates. All of the winter wheat varieties are in the shock, also three barley varieties, 3 oat varieties, and one spring wheat variety. All of the rates of barley and oats are in the shock, and three dates of seeding of each.

Nearly all small grains are filling well. Although barley heads are very well filled, the culms are short, making it difficult to bind. Flax is yellowing slightly, is past bloom, and is filling very well.

Sudan grass is coming into head, as well as three varieties of sorghum; in fact, one sorghum is well into the heading stage. Millet is also heading.

Some concrete work has been done in the implement shed on rainy days during the week, but we are back to field work now.

Mr. Evans of the Pathological Division of the Cereal Office with Mr. Thomas, County Agent of this County, visited the Station yesterday, and inspected the plats looking for diseased grain. Some was found.

Mr. John M. Stephens called at the Station on the 21, laying over in Sheridan between trains.

Weather data for the past week was as follows: Max., 93°; Min., 46°. Avg. Wind, 4.1 mi., Precipitation, .30". Evaporation, 1.517".

Tucumcari:

The past week has been the most favorable for crops that we have had for a long time. At last we have sufficient moisture in the soil to insure germination of the seed planted sometime ago. Indications are at present that we will get fair stands on most of the stuff planted. Some seed, especially cowpeas, have been injured by light showers which sprouted or started germination of the seed, but which were not sufficient to start growth. We are still, however, without a reserve supply of moisture for crops to draw on, but indications for more rain are becoming more favorable, and, judging by past records, we should have considerable precipitation next month. The entire Station force has been very busy the past week in putting up our yucca crop. About 25 acres of yucca were hauled up and baled during the week. We still have about 25 acres down which will be ready to bale as soon as it drys out sufficiently and we can get the time to bale it. Good yucca is quoted at $ 11.00 per ton at Tucumcari, and many of the settlers in this part of the State are harvesting large quantities of this plant.

Tucumcari, continued:

Triumph peaches in the experimental orchard are ripening and the quality is very good for the adverse conditions under which they have been grown.

Maximum temperature for the week, 99°; minimum, 63°. Evaporation, 2.463". Precipitation, 97" in four showers. Wind Velocity, 4.0 miles.

Woodward:

The weather continues hot and dry in this section. We have been having hot winds regularly for several days. Up to this time we had received no hot winds, but we are now getting them with interest. The wind has been blowing on an average of about ten-miles per hour during the day (24 hours). The average for the twelve-hour period, and when it was the hottest, is much greater because the wind died down about 6 p.m. and remained quiet all night. The crops are beginning to show damage to some extent now, although the sorghums are holding up well and heading. We have harvested two plats of corn on the rotations - Rot. 88 and 89 C. One - 89 C - was a manured plat and it was badly burned, and the other was not manured and stood the drought much better although it was in bad shape. The rest of the corn on the rotations and M. C. series is looking pretty good and the ears are filled pretty well in spite of the dry weather. It is in the roasting ear stage at this time. Two plats of Red amber cane has been harvested in the Cereal block. These were of the first two dates. Sudan and Millet were also harvested from the same blocks and yielded as follows: Sudan in 44-inch rows, 2,700 lbs per acre; broadcast, 2,000 lbs. From all indications, we will have an early harvest this year.

Maximum temperature, 101°; minimum, 69°. Hot winds occurring for four days in succession and precipitation none.